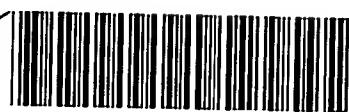$\frac{0590}{0424}$

#8 ‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖

ENTERED OIPE

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/996,484

DATE: 04/23/2002 ρ,S
TIME: 15:38:08

Input Set : A:\seqlist.txt
Output Set: N:\CRF3\04232002\I996484.raw

```
 3 <110> APPLICANT: CHOO, Yen
 4         ULLMAN, Christopher G.
 6 <120> TITLE OF INVENTION: MOLECULAR SWITCHES
 8 <130> FILE REFERENCE: 8325-2004 / G8-US1
10 <140> CURRENT APPLICATION NUMBER: 09/996,484
11 <141> CURRENT FILING DATE: 2002-04-08
13 <160> NUMBER OF SEQ ID NOS: 64
15 <170> SOFTWARE: PatentIn Ver. 2.0
17 <210> SEQ ID NO: 1
18 <211> LENGTH: 995
19 <212> TYPE: DNA
20 <213> ORGANISM: Artificial Sequence
22 <220> FEATURE:
23 <223> OTHER INFORMATION: Description of Artificial Sequence:
24         TFIIIA/Zif-VP16
26 <400> SEQUENCE: 1
27 tctagagcgc cgccatggga gagaaggcgc tgccggtggt gtataagcgg tacatctgct 60
28 ctttcgccga ctgcggcgct gcttataaca agaactggaa actgcaggcg catctgtgca 120
29 aacacacagg agagaaacca tttccatgta aggaagaagg atgtgagaaa ggctttacct 180
30 cgcttcatca cttaacccgc cactcactca ctcatactgg cgagaaaaac ttcacatgtg 240
31 actcggatgg atgtgacttg agatttacta caaaggcaaa catgaagaag cactttaaca 300
32 gattccataa catcaagatc tgcgtctatg tgtgccattt tgagaactgt ggcaaagcat 360
33 tcaagaaaca caatcaatta aaggttcatc agttcagtca cacacagcag ctgccgtatg 420
34 cttgccctgt cgagtcctgc gatcgccgct tttctcgctc ggatgagctt acccgccata 480
35 tccgcatcca cacaggccag aagcccttcc agtgtcgaat ctgcatgcgt aacttcagtc 540
36 gtagtgacca ccttaccacc cacatccgca cccacacagg cgagaagcct tttgcctgtg 600
37 acatttgtgg gaggaagttt gccaggagtg atgaacgcaa gaggcatacc aaaatccatt 660
38 taagacagaa ggacgcggcc gcactcgagc ggaattccgg cccaaaaaag aagagaaagg 720
39 tcgccccccc gaccgatgtc agcctggggg acgagctcca cttagacggc gaggacgtgg 780
40 cgatggcgca tgccgacgcg ctagacgatt tcgatctgga catgttgggg gacggggatt 840
41 ccccgggggcc gggatttacc ccccacgact ccgcccccta cggcgctctg gatacggccg 900
42 acttcgagtt tgagcagatg tttaccgatg cccttggaat tgacgagtac ggtggggaac 960
43 aaaaacttat ttctgaagaa gatctgtaag gatcc                          995
45 <210> SEQ ID NO: 2
46 <211> LENGTH: 947
47 <212> TYPE: DNA
48 <213> ORGANISM: Artificial Sequence
50 <220> FEATURE:
51 <223> OTHER INFORMATION: Description of Artificial Sequence:TFIIIA/Zif-VP64
53 <400> SEQUENCE: 2
54 tctagagcgc cgccatggga gagaaggcgc tgccggtggt gtataagcgg tacatctgct 60
55 ctttcgccga ctgcggcgct gcttataaca agaactggaa actgcaggcg catctgtgca 120
56 aacacacagg agagaaacca tttccatgta aggaagaagg atgtgagaaa ggctttacct 180
```

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/996,484

DATE: 04/23/2002
TIME: 15:38:08

Input Set : **A:\seqlist.txt**
Output Set: **N:\CRF3\04232002\I996484.raw**

```
57 cgcttcatca cttaacccgc cactcactca ctcatactgg cgagaaaaac ttcacatgtg 240
58 actcggatgg atgtgacttg agatttacta caaaggcaaa catgaagaag cactttaaca 300
59 gattccataa catcaagatc tgcgtctatg tgtgccattt tgagaactgt ggcaaagcat 360
60 tcaagaaaca caatcaatta aaggttcatc agttcagtca cacacagcag ctgccgtatg 420
61 cttgccctgt cgagtcctgc gatcgccgct tttctcgctc ggatgagctt acccgccata 480
62 tccgcatcca cacaggccag aagcccttcc agtgtcgaat ctgcatgcgt aacttcagtc 540
63 gtagtgacca ccttaccacc cacatccgca cccacacagg cgagaagcct tttgcctgtg 600
64 acatttgtgg gaggaagttt gccaggagtg atgaacgcaa gaggcatacc aaaatccatt 660
65 taagacagaa ggacgcggcc gcactcgagc ggaattccgg cccaaaaaag aagagaaagg 720
66 tcgaacttca gctgacttcg gatgcattag atgactttga cttagatatg ctaggatctg 780
67 acgcgctaga cgatttcgat ctggacatgt tgggcagcga tgctctggac gatttcgatt 840
68 tagatatgct tggctcggat gccctggatg acttcgacct cgacatgctg tcaagtcagc 900
69 tgagccagga acaaaaactt atttctgaag aagatctgta aggatcc           947
71 <210> SEQ ID NO: 3
72 <211> LENGTH: 29
73 <212> TYPE: DNA
74 <213> ORGANISM: Artificial Sequence
76 <220> FEATURE:
77 <223> OTHER INFORMATION: Description of Artificial Sequence: TFIIA/Zif
78       binding site
80 <400> SEQUENCE: 3
81 tgcgtgggcg tgtacctgga tgggagacc                               29
83 <210> SEQ ID NO: 4
84 <211> LENGTH: 31
85 <212> TYPE: PRT
86 <213> ORGANISM: Artificial Sequence
88 <220> FEATURE:
89 <223> OTHER INFORMATION: Description of Artificial Sequence: zinc finger
90       framework
92 <220> FEATURE:
93 <221> NAME/KEY: SITE
94 <222> LOCATION: (1)..(2)
95 <223> OTHER INFORMATION: can be present or absent; Xaa = any amino acid
97 <220> FEATURE:
98 <221> NAME/KEY: SITE
99 <222> LOCATION: (4)..(8)
100 <223> OTHER INFORMATION: Xaa = any amino acid
102 <220> FEATURE:
103 <221> NAME/KEY: SITE
104 <222> LOCATION: (5)..(8)
105 <223> OTHER INFORMATION: can be present or absent
107 <220> FEATURE:
108 <221> NAME/KEY: SITE
109 <222> LOCATION: (10)..(23)
110 <223> OTHER INFORMATION: Xaa = any amino acid
112 <220> FEATURE:
113 <221> NAME/KEY: SITE
114 <222> LOCATION: (19)..(23)
115 <223> OTHER INFORMATION: can be present or absent
```

```
117 <220> FEATURE:
118 <221> NAME/KEY: SITE
119 <222> LOCATION: (25)..(30)
120 <223> OTHER INFORMATION: Xaa = any amino acid
122 <220> FEATURE:
123 <221> NAME/KEY: SITE
124 <222> LOCATION: (28)..(30)
125 <223> OTHER INFORMATION: can be present or absent
127 <220> FEATURE:
128 <221> NAME/KEY: SITE
129 <222> LOCATION: (31)
130 <223> OTHER INFORMATION: Xaa = His or Cys
132 <400> SEQUENCE: 4
```
W--> 133 Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa
```
134   1               5                   10                  15
```
W--> 136 Xaa Xaa Xaa Xaa Xaa Xaa Xaa His Xaa Xaa Xaa Xaa Xaa Xaa
```
137             20                  25                  30
140 <210> SEQ ID NO: 5
141 <211> LENGTH: 24
142 <212> TYPE: PRT
143 <213> ORGANISM: Artificial Sequence
145 <220> FEATURE:
146 <223> OTHER INFORMATION: Description of Artificial Sequence: zinc finger
147       binding motif
149 <220> FEATURE:
150 <221> NAME/KEY: SITE
151 <222> LOCATION: (1)
152 <223> OTHER INFORMATION: Xaa = any amino acid
154 <220> FEATURE:
155 <221> NAME/KEY: SITE
156 <222> LOCATION: (3)..(6)
157 <223> OTHER INFORMATION: Xaa = any amino acid
159 <220> FEATURE:
160 <221> NAME/KEY: SITE
161 <222> LOCATION: (5)..(6)
162 <223> OTHER INFORMATION: may be present or absent
164 <220> FEATURE:
165 <221> NAME/KEY: SITE
166 <222> LOCATION: (8)..(10)
167 <223> OTHER INFORMATION: Xaa = any amino acid
169 <220> FEATURE:
170 <221> NAME/KEY: SITE
171 <222> LOCATION: (10)
172 <223> OTHER INFORMATION: may be present or absent
174 <220> FEATURE:
175 <221> NAME/KEY: SITE
176 <222> LOCATION: (12)..(16)
177 <223> OTHER INFORMATION: Xaa = any amino acid
179 <220> FEATURE:
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RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/996,484

DATE: 04/23/2002
TIME: 15:38:08

Input Set : A:\seqlist.txt
Output Set: N:\CRF3\04232002\I996484.raw

```
    180 <221> NAME/KEY: SITE
    181 <222> LOCATION: (18)..(19)
    182 <223> OTHER INFORMATION: Xaa = any amino acid
    184 <220> FEATURE:
    185 <221> NAME/KEY: SITE
    186 <222> LOCATION: (21)..(23)
    187 <223> OTHER INFORMATION: Xaa = any amino acid
    189 <400> SEQUENCE: 5
W--> 190 Xaa Cys Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Phe Xaa Xaa Xaa Xaa Xaa
    191   1               5                   10                  15
W--> 193 Leu Xaa Xaa His Xaa Xaa Xaa His
    194               20
    197 <210> SEQ ID NO: 6
    198 <211> LENGTH: 4
    199 <212> TYPE: PRT
    200 <213> ORGANISM: Artificial Sequence
    202 <220> FEATURE:
    203 <223> OTHER INFORMATION: Description of Artificial Sequence: linker
    205 <400> SEQUENCE: 6
    206 Thr Gly Glu Lys
    207   1
    210 <210> SEQ ID NO: 7
    211 <211> LENGTH: 5
    212 <212> TYPE: PRT
    213 <213> ORGANISM: Artificial Sequence
    215 <220> FEATURE:
    216 <223> OTHER INFORMATION: Description of Artificial Sequence: linker
    218 <400> SEQUENCE: 7
    219 Thr Gly Glu Lys Pro
    220   1               5
    223 <210> SEQ ID NO: 8
    224 <211> LENGTH: 26
    225 <212> TYPE: PRT
    226 <213> ORGANISM: Artificial Sequence
    228 <220> FEATURE:
    229 <223> OTHER INFORMATION: Description of Artificial Sequence: consensus
    230         structure
    232 <400> SEQUENCE: 8
    233 Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln Lys Ser Asp
    234   1               5                   10                  15
    236 Leu Val Lys His Gln Arg Thr His Thr Gly
    237               20                  25
    240 <210> SEQ ID NO: 9
    241 <211> LENGTH: 29
    242 <212> TYPE: PRT
    243 <213> ORGANISM: Artificial Sequence
    245 <220> FEATURE:
    246 <223> OTHER INFORMATION: Description of Artificial Sequence: consensus
    247         structure
```

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/996,484   DATE: 04/23/2002
                                        TIME: 15:38:08

Input Set : A:\seqlist.txt
Output Set: N:\CRF3\04232002\I996484.raw

249 <400> SEQUENCE: 9
250 Pro Tyr Lys Cys Ser Glu Cys Gly Lys Ala Phe Ser Gln Lys Ser Asn
251 1   5   10   15
253 Leu Thr Arg His Gln Arg Ile His Thr Gly Glu Lys Pro
254   20   25

257 <210> SEQ ID NO: 10
258 <211> LENGTH: 6
259 <212> TYPE: PRT
260 <213> ORGANISM: Artificial Sequence
262 <220> FEATURE:
263 <223> OTHER INFORMATION: Description of Artificial Sequence: leader
264   peptide
266 <400> SEQUENCE: 10
267 Met Ala Glu Glu Lys Pro
268 1   5

271 <210> SEQ ID NO: 11
272 <211> LENGTH: 17
273 <212> TYPE: DNA
274 <213> ORGANISM: Artificial Sequence
276 <220> FEATURE:
277 <223> OTHER INFORMATION: Description of Artificial Sequence: plant
278   translational initiation sequence
280 <400> SEQUENCE: 11
281 aaggagatat aacaatg   17

283 <210> SEQ ID NO: 12
284 <211> LENGTH: 10
285 <212> TYPE: DNA
286 <213> ORGANISM: Artificial Sequence
288 <220> FEATURE:
289 <223> OTHER INFORMATION: Description of Artificial Sequence: plant
290   translational initiation sequence
292 <400> SEQUENCE: 12
293 gtcgaccatg   10

295 <210> SEQ ID NO: 13
296 <211> LENGTH: 60
297 <212> TYPE: DNA
298 <213> ORGANISM: Artificial Sequence
300 <220> FEATURE:
301 <223> OTHER INFORMATION: Description of Artificial Sequence:
302   oligonucleotide
304 <400> SEQUENCE: 13
305 ctcctgcagt tggacctgtg ccatggccgg ctgggccgca tagaatggaa caactaaagc 60

307 <210> SEQ ID NO: 14
308 <211> LENGTH: 10
309 <212> TYPE: DNA
310 <213> ORGANISM: Artificial Sequence
312 <220> FEATURE:
313 <223> OTHER INFORMATION: Description of Artificial Sequence:
314   oligonucleotide target

Use of n and / or Xaa has been detected in the
Sequence Listing. Review the Sequence Listing
to ensure a corresponding explanation is present
in the <220> to <223> fields of each sequence
using n or Xaa.

RAW SEQUENCE LISTING ERROR SUMMARY   DATE: 04/23/2002
PATENT APPLICATION: US/09/996,484   TIME: 15:38:09

Input Set : A:\seqlist.txt
Output Set: N:\CRF3\04232002\I996484.raw

<u>Please Note:</u>
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the
Sequence Listing to ensure that a corresponding explanation is presented in the <220>
to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:4; Xaa Pos. 1,2,4,5,6,7,8,10,11,12,13,14,15,16,17,18,19,20,21,22,23,25
Seq#:4; Xaa Pos. 26,27,28,29,30,31
Seq#:5; Xaa Pos. 1,3,4,5,6,8,9,10,12,13,14,15,16,18,19,21,22,23
Seq#:36; N Pos. 7,8,9,10,11
Seq#:54; N Pos. 5,6,7,8,9,10
Seq#:55; N Pos. 28,29,30,31
Seq#:60; Xaa Pos. 2,4

VERIFICATION SUMMARY   DATE: 04/23/2002
PATENT APPLICATION: US/09/996,484   TIME: 15:38:09

Input Set : A:\seqlist.txt
Output Set: N:\CRF3\04232002\I996484.raw

```
L:11  M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:133 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:0
L:136 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:16
L:190 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:0
L:193 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:16
L:639 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:36 after pos.:0
L:894 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:54 after pos.:0
L:911 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:55 after pos.:0
L:980 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:60 after pos.:0
```